PALDE

QUERY CONTROL FORM			RTIS USE ONLY		
Application No. 09626025	Prepared by	M. RUSTIA	Tracking Number	05938901	-
Examiner-GAU BUDO - 2834	Date	5-17-4	Week Date		
	No. of queries		I PW		

7 ind	JACKET	`
a. Serial No.	f. Foreign Priority k. Print Claim(s)	(p.)PTO-1449
b. Applicant(s)	g. Disclaimer I. Print Fig.	q. PTOL-85b
c. Continuing Data	h. Microfiche Appendix m. Searched Coli	umn r. Abstract
d. PCT	i. Title n. PTO-270/328	s. Sheets/Figs
e. Domestic Priority	j. Claims Allowed o. PTO-892	t. Other

SPECIFICATION	MESSAGE
a. Page Missing	
b. Text Continuity	PTO-1449: please either
c. Holes through Data	initial or line through
d. Other Missing Text	the citations.
e. Illegible Text	
f. Duplicate Text	
g. Brief Description	
h. Sequence Listing	
i. Appendix	
j. Amendments	
k. Other	
CLAIMS	
a. Claim(s) Missing	
b. Improper Dependency	
c. Duplicate Numbers	Thank you,
d. Incorrect Numbering	initials WR
e. Index Disagrees	RESPONSE
f. Punctuation	
g. Amendments	
h. Bracketing	
i. Missing Text	
j. Duplicate Text	
k. Other	
	initials

FEB 27 2001 Information Disclosure
Statement By Applicant
(Use Several Sheets if Necessary)

AAtty Docket No. SRI1P020/US-4184-2 Applicant:

Pelrine et al. Filing Date July 20, 2000

Application No.: 09/620,025

Group 2743

U.S. Patent Documents

Examiner Initial		Patent No.	Date	Patentee	Class	Sub- class	Filing Date
	AI	5,902,836	05/11/99	Bennet et al.			08/23/95
	A2	5,229,979	07/20/93	Scheinbeim et al.	1		12/13/91
	A3	5,642,015	06/24/97	Whitehead et al.			05/01/95
	A4	5,835,453	11/10/98	Wynne et al.			05/05/97

Other Documents

	. •	Other Documents
Examiner		
Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	A5	Aramaki, S., S. Kaneko, K. Arai, Y. Takahashi, H. Adachi, and K.
		Yanagisawa. 1995. "Tube Type Micro Manipulator Using Shape Memory
		Alloy (SMA)," Proceedings of the IEEE Sixth International Symposium on
		Micro Machine and Human Science, Nagoya, Japan, pp. 115-120.
	A6	Bharti, V., Y. Ye, TB. Xu and Q. M. Zhang, "Correlation Between Large
		Electrostrictive Strain and Relaxor Behavior with Structural Changes Induced
1.5		in P(VDF-TrFE) Copolymer by electron Irradiation," Mat. Res. Soc. Symp.
		Proc. Vol 541, pp. 653-659 (1999).
	A7	Bobbio, S., M Kellam, B. Dudley, S. Goodwin Johansson, S. Jones, J.
		Jacobson, F. Tranjan, and T. DuBois, "Integrated Force Arrays," in Proc. IEEE
		Micro ElectroMechanical Systems Workshop, Fort Lauderdale, Florida
		February 1993.
_	A8	Caldwell, D., G. Medrano-Cerda, and M. Goodwin, "Characteristics and
		Adaptive Control of Pneumatic Muscle Actuators for a Robotic Elbow," Proc.
1		IEEE Int. Conference on Robotics and Automation, San Diego, California (8-
		13 Máy 1994).
	A9	Calvert, P. and Z. Liu, "Electrically stimulated bilayer hydrogels as muscles,"
		Proceedings of the SPIE International Symposium on Smart Structures and
		Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999,
	* 10	Newport Beach, California, USA, pp. 236-241.
	A10	
1	-	MacDiarmid, "High performance of all-polymer electrostrictive systems,"
		Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999,
		Newport Beach, California, USA., pp. 140-148.
	AII	De Rossi, D., and P. Chiarelli. 1994. "Biomimetic Macromolecular
	711	Actuators," Macro-lon Characterization, American Chemical Society
		Symposium Series, Vol. 548, Ch. 40, pp. 517-530.
	A12	Egawa, S. and T. Higuchi, "Multi-Layered Electrostatic Film Actuator," Proc.
		IEEE Micro Electra Mechanical Systems, Napa Valley, California, pp. 166-
	ŀ	171 (February 11-14, 1990).
	A13	Full, R. J. and K. Meijer, "Artificial Muscles Versus Natural Actuators From
		Frogs To Flies," Proceedings of the 7th SPIE Symposium on Smart Structures
<u>l</u> .		and Materials-Electroactive Polymers and Devices (EAPAD) Conference,
		March 6-8, 2000, Newport Beach, California, USA, pp. 2-9.
Examiner		Date Considered
		N. M. M. C.

Application No.: 09/620,025

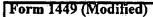
Information Dischesure Statement By Application

Atty Docket No. SRI1P020/US-4184-2 Applicant: Pelrine et al. Filing Date July 20, 2000

Group 2743

(Use Several Sheets if Necessary)

		Other Documents
Examiner		
Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
**************************************	B1	
*	,	Microactuators," Solid State Sensors and Actuators, 1991, Digest of Tech.
		Papers, Transducers, pp. 1056-1059
	B2	
7, 12		Technologies for Future Spacecraft Missions," presented at the conference
.*		entitled "Practical Robotic Interstellar Flight: Are We Ready?" New York
,		University and The United Nations, New York. (August 29 and September 1,
`		1994); also published on the World Wide Web at
_		http://nonothinc.com/nanosci/microtech/mems/ten-actuators/gilbertson.html.
	B3	
* , *		Ultra-low Leakage," Tenth Annual International Workshop on Micro
		Electromechanical Systems, Nagoya, Japan, IEEE Proceedings (January 26-
	` ·	30, 1997), pp. 323-326.
	B4	Hirose, S., Biologically Inspired Robots: Snake-like Locomotors and
		Manipulators, "Development of the ACM as a Manipulator", Oxford
		University Press, New York, 1993, pp.170-172.
	B5	Hunter, I., S. Lafontaine, J. Hollerbach, and P. Hunter, "Fast Reversible NiTi
		Fibers for Use in MicroRobotics," Proc. 1991 IEEE Micro Electro
	,	Mechanical Systems-MEMS '91, Nara, Japan, pp. 166-170.
	B6	Hunter, I.W., and S. Lafontaine, "A Comparison of Muscle with Artificial
·		Actuators", Technical Digest of the IEEE Solid-state Sensor and Actuator
		Workshop, Hilton Head, South Carolina, June 22-25, 1992, pp.178-185.
• 11,000 • 100	B7	Kawamura, S., K. Minani, and M. Esashi, "Fundamental Research of
		Distributed Electrostatic Micro Actuator," Technical Digest of the 11th Sensor
		Symposium, pp. 27-30(1992).
	B8	Liu, C., Y. Bar-Cohen, and S. Leary, "Electro-statically stricted polymers
		(ESSP)," Proceedings of the SPIE International Symposium on Smart Structures and Materials: Electro-Active Polymer Actuators and Devices,
		March 1-2, 1999, Newport Beach, California, USA., pp. 186-190.
· · · · · · · · · · · · · · · · · · ·	B9	Lang, J, M. Schleet, and R. Howe, "Electric Micromotors: Electromechanical
	פם ן	Characteristics," Proc. IEEE Micro Robots and Teleoperators Workshop,
		Hyannis, Massachusetts (November 9-11, 1987).
	B10	
	סוט	Electrodes on Electroactive Polymer Actuators," Proceedings of the SPIE
	ľ	International Symposium on Smart Structures and Materials: Electro-Active
		Polymer Actuators and Devices, March 1-2, 1999, Newport Beach, California,
		USA., pp. 284-288.
	ВП	Olsson, A., O. Larsson, J. Holm, L. Lundbladh, O. Ohinan, and G. Stemme.
	" "	1997. "Valve-less Diffuser Micropumps Fabricated using Thermoplastic
		Replication," Proc. IEEE Micro Electro Mechanical Systems, Nagoya, Japan,
		pp. 305-310 (January 26-30, 1997).
Examiner	<u> </u>	Date Considered
Limite		
		and the second of the second o



Information Disclosus Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2 Applicant: Pelrine et al. Filing Date July 20, 2000

Application No.: 09/620,025

Group 2743

Other Documents

	· · · ·	Other Documents
Examiner		
Initial		Author, Title, Date, Place (e.g. Journal) of Publication
	CI	Olsson, A., G. Stemme, and E. Stemme, "The First Valve-less Diffuser Gas
		Pump," Tenth Annual International Workshop on Micro Electromechanical
?		Systems, Nagoya, Japan, IEEE Proceedings (January 26-30, 1997), pp.108-
	· .	113.
	C2	Otero, T.F., J. Rodriguez, and C. Santamaria, "Smart Muscle Under
*		Electrochemical Control of Molecular Movement in Polypyrrole Films,"
		Materials Research Society Symposium Proceedings, Vol. 330, pp. 333-338,
		1994
	C3	
		"Electromechanically Active Polymer Blends for Actuation," Proceedings of
		the 7th SPIE Symposium on Smart Structures and Materials-Electroactive
*		Polymers and Devices (EAPAD) Conference, March 6-8, 2000, Newport
• •		Beach, California, USA, pp. 65-72.
	C4	Wax, S. G. and R. R. Sands, "Electroactive Polymer Actuators and Devices,"
- 1 × 1	Δv_{i} ,	Proceedings of the SPIE International Symposium on Smart Structures and
	7.11	Materials: Electro-Active Polymer Actuators and Devices, March 1-2, 1999,
		Newport Beach, California, USA., pp. 2-10.
	C5	Winters, J, "Muscle as an Actuator for Intelligent Robots," Robotics
-		Research: Trans. Robotics International of SME, Scottsdale, AZ (August 18-
		21, 1986).
	C6	Zhang, Q. M., V. Bharti, ZY. Cheng, TB. Xu, S. Wang, T. S. Ramotowski,
•		F. Tito, and R. Ting, "Electromechanical Behavior of Electroactive P(VDF-
	,	TrFE) Copolymers," Proceedings of the SPIE International Symposium on
	1,	Smart Structures and Materials: Electro-Active Polymer Actuators and
·	<u> </u>	Devices, March 1-2, 1999, Newport Beach, California, USA., pp. 134-139.
,	C7	Zhang, Q. M., ZY. Cheng, V. Bharti, TB. Xu, H. Xu, T. Mai, and S. J.
		Gross, "Piezoelectric And Electrostrictive Polymeric Actuator Materials,"
		Proceedings of the 7th SPIE Symposium on Smart Structures and Materials-
		Electroactive Polymers and Devices (EAPAD) Conference, March 6-8, 2000,
	7.0	Newport Beach, California, USA, pp. 34-50.
-	C8	Kornbluh, R., G. Andeen, and J. Eckerle, "Artificial Muscle: The Next
		Generation of Robotic Actuators," presented at the Fourth World Conference
		on Robotics Research, SME Paper M591-331, Pittsburgh, PA, September 17-
Urani	<u> </u>	19, 1991,
Examiner		Date Considered
		er ar villagiska ar er villagiska kirileri erileri erileri erileri erileri erileri erileri erileri erileri eri

Information Disclosure Statement By Applicantage

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2 Applicant: Pelrine et al. Filing Date July 20, 2000

Application No.: 09/620,025

Group 2743

Other Documents

T	,	Other Documents
Examiner		
Initial		Author, Title, Date, Place (e.g. Journal) of Publication
	DI	Kornbluh, R., R. Pelrine, J. Joseph, "Elastomeric Dielectric Artificial Muscle
-		Actuators for Small Robots," Proceedings of the Third IASTED International
		Conference on Robotics and Manufacturing, June 14-16, 1995, Cancun,
		Mexico.
	D2	Kornbluh, R., R. Pelrine, Jose Joseph, Richard Heydt, Qibing Pei, Seiki Chiba,
		1999. "High-Field Electrostriction Of Elastomeric Polymer Dielectrics For
		Actuation", Proceedings of the SPIE International Symposium on Smart
	٠,	Structures and Materials: Electro-Active Polymer Actuators and Devices,
		March 1-2, 1999, Newport Beach, California, USA. pp. 149-161.
	D3	Kornbluh, R., R. Pelrine, Q. Pei, S. Oh, and J. Joseph, 2000. "Ultrahigh Strain
		Response of Field-Actuated Elastomeric Polymers," Proceedings of the 7th
		SPIE Symposium on Smart Structures and Materials-Electroactive Polymers
		and Devices (EAPAD) Conference, March 6-8, 2000, Newport Beach,
		California, USA, pp. 51-64.
1.7	D4.	I recession to the recession of the second s
		the Field-Activated Deformation of Dielectric Elastomers," (2000)
	D5	
		Films for Microactuators," Proc. IEEE Tenth Annual International Workshop
	1.	on Micro Electro Mechanical Systems, Nagoya, Japan, January 26-30, 1997,
• ,		pp. 238-243.
	D6	
	·	Approaches," invited paper, in Proc. Third International Symposium on Micro
		Machine and Human Science, Nagoya, Japan, October 14-16, 1992
	D7	
		Progress in Artificial Muscle Micro Actuators,", SRI International, Tokyo,
		1999 MITI/NEEDOIMNIC, 1999
Examiner		Date Considered
<u> </u>		

Informati n Diselosure Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2

Applicant: Pelrine et al. Filing Date July 20, 2000 Application No.: 09/620,025

Group 2743

Other Documents

		Other Documents
Examiner		
Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	EI	Pelrine, R., R. Kornbluh, and J. Eckerle, "Elastomeric Dielectric Polymer
•		Film Sonic Actuator," US Provisional Patent Application No. 60/037,400,
	· .	filed Feb. 7, 1997.
• •	,	
	E2	Pelrine, R., R. Kornbluh, J. Joseph, and S. Chiba. "Artificial Muscle Micro
* .:		Actuators," US-4067-2P, U.S. Provisional Patent Application No. 60/161,325.
		filed 25 October 1999.
	E3	Pelrine, R., R. Kornbluh, J. Joseph, Q. Pei, and S. Chiba. "Electrostrictive
•		Polymers as Micro Actuators," US-4042-2P, U.S. Provisional Patent
		Application No. 60/153,329, filed 10 September 1999.
	E4	Pelrine, R., R. Kornbluh, Q. Pei. and 3. Joseph. "High-Speed Electrically
		Actuated Polymers and Methods of Use," US-4028-2P, U.S. Provisional
		Patent Application No. 60/144,556, filed 20 July 1999.
	E5	Anderson, R. 1986. "Mechanical stress in a dielectric solid from a uniform
		electric field," Physical Review B, 33(2), pp.1302-1307.
	E6	Baughman, R. H., L. W. Shacklette, and R. L. Elsenbaumer, E. J. Plichta, and
•		C. Becht, "Micro electromechanical actuators based on conducting
		polymers," in Molecular Electronics, Materials and Methods, P. I. Lazarev
		(ed.), Kluwer Academic Publishers, pp. 267-289 (1991)
	E7	Baughman, R., L. Shacklette, R. Elsenbaumer, E. Plichta, and C. Becht
		"Conducting Polymer Electromechanical Actuators," Conjugated Polymeric
		Materials: Opportunities in Electronics, Optoelectronics and Molecular
		Electronics, eds. J.L. Bredas and R.R. Chance, Kluwer Academic Publishers,
		The Netherlands, pp. 559-582, 1990
	E8	Bharti, V., H. S. Xu, G. Shanthi, and Q. M. Zhang, "Polarization and
The same Bayes		Structural Properties of High Energy Electron Irradiated Poly(vinylidene
		fluoride-trifluoroethylene) Copolymer Films," to be published in J. Appl.
		Phys. (2000).
	E9	Bharti, V., XZ. Zhao, Q. M. Zhang, T. Romotowski, F. Tito, and R. Ting,
, e e e e		"Ultrahigh Field Induced Strain And Polarization Response In Electron
*	ŀ	Irradiated Poly(Vinylidene Fluoride-Trifluoroethylene) Copolymer," Mat.
		Res. Innovat. Vol. 2, 57-63 (1998).
	EI0	
		electrostrictive strain under high mechanical stress in electron-irradiated
* *		poly(vinylidene fluoride-trifluoroethylene) copolymer," Appl. Phys. Lett. Vol.
		75, 2653-2655 (October 25, 1999).
Examiner		Date Considered
	1	

Information Disclosure Statement By Applications

(Use Several Sheets if Necessary)

SRI1P020/US-4184-2 Applicant: Pelrine et al. Filing Date July 20, 2000

Application No.: 09/620,025

Group 2743

Other Documents

		Other Documents
Examiner		
Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	FI	Bohon, K., and S. Krause, "An Electrorheological Fluid and Siloyane Gel
•		Based Electromechanical Actuator: Working Toward an Artificial Muscle."
		to be published in J. Polymer Sci., Part B. Polymer Phys. (2000)
<u> </u>	F2	Cheng, ZY., TB. Xu, V. Bharti, S. Wang, and O. M. Zhang, "Transverse
		Strain Responses In The Electrostrictive Poly(Vinylidene Fluoride-
•		Trifluorethylene) Copolymer," Appl. Phys. Lett. Vol 74, No. 13, pp. 1901-
		1903, March 29, 1999.
· ·	F3	Chiarelli, P., A. Della Santa, D. DeRossi, and A. Mazzoldi. 1995. "Actuation
	1	Properties of Electrochemically Driven Polypyrrole Free-standing Films."
		Journal of Intelligent Material Systems and Structures, Vol. 6, pp. 32-37.
		January 1995
	F4	Elhami, K., and B. Gauthier-Manuel, "Electrostriction Of The Copolymer Of
	1	Vinylidene-Fluoride And Trifluoroethylene," J. Appl. Phys. Vol. 77 (8), 3987.
		[3990, April 15, 1995.
	F5	Flynn, Anita M., L.S. Tavrow, S.F. Bart, R.A. Brooks, D.J. Ehrlich, K.R.
-		Udayakumar, and L.E. Cross. 1992. "Piezoelectric Micromotors for
		Microrobots," IEEE Journal of Microelectromechanical Systems, Vol.1, No.1,
****	,	pp. 44-51 (March 1992), also published as MIT Al Laboratory Memo 1269,
		Massachusetts Institute of Technology (February 1991).
	F6	Furukawa, T., and N. Seo., "Electrostriction as the Origin of Piezoelectricity in
		Ferroelectric Polymers," Japanese J. Applied Physics, Vol. 29, No. 4, pp. 675-
		680 (April 1990).
* * ***	F7	Kaneto, K., M. Kaneko, Y. Min, and A.G. MacDiarmid. 1995. "Artificial
	i i	Muscle': Electromechanical Actuators Using Polyaniline Films," Synthetic
		Metals 71, pp. 2211-2212, 1995
	F8	Kondoh Y., and T. Ono. 1991. "Bimorph Type Actuators using Lead Zinc
Tax. 1	,	Niobate-based Ceramics," Japanese Journal of Applied Physics, Vol. 30, No.
		9B, pp. 2260-2263, September 1991.
	. F9	Lawless, W. and R. Arenz, "Miniature Solid-state Gas Compressor," Rev. Sci
		Instrum., 58(8), pp.1487-1493, August 1987
,	FIO	Martin, J. and R. Anderson, 1999. "Electrostriction In Field-Structured
		Composites: Basis For A Fast Artificial Muscle?", Journal of Chemical
	154.4	Physics, Vol. 111, no. 9, pp.4273-4280, September 1, 1999
	FII	Ohara, K., M. Hennecke, and J. Fuhrmann, "Electrostriction of
	لسبيا	polymethylmethacrylates," Colloid & Polymer Sci. Vol 280, 164-168 (1982).
Examiner	1.	Date Considered

Information Disclosure Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2

Applicant: Pelrine et al. Filing Date July 20, 2000 Application No.: 09/620,025

Group 2743

Other Documents

n, "Artificial Muscles
"Artificial Muscles
nn 3713-3717 (1993).
, pp. 3713-3717 (1993).
electric Behavior in
Physics, Vol. 82, pp.
er Strips Built From
mart Materials and
ostrictive Response of
er Combusite Aliays
s and Actuators, A 44,
the state of the s
lymer Gels as
gent Material Systems
or Electrostriction," J
i Olding Of Iviloromicus.
Materials, Vol.5, No. 9,
_
apps, "Effects of
All Alli-ciccuosateave
pp. 1363-1370, January
Properties of Shape
nternational Journal,
ils and Applications,"
,
4

Information Disclosure Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2

Applicant: Pelrine et al. Filing Date
July 20, 2000 Application No.: 09/620,025

Group 2743

Other Documents

Examiner	T	Other Documents
Initial	Na	Author Title Deta Blace (s. T. 1999) CD 129
muai	NO.	Author, Title, Date, Place (e.g. Journal) of Publication
•	Hi	1
		Breakdown Strengths Of Melt-Extruded Polyporpylene Films," Polymer, Vol.
		34, No. 5, pp. 1093-4 (1993).
	H2	Zhang, Q., V. Bharti, and X. Zhao, "Giant Electrostriction and Relaxor
• • • • • • • • • • • • • • • • • • • •		Ferroelectric Behavior in Electron-irradiated Poly(vinylidene fluoride-
		trifluoroethylene) Copolymer," Science, Vol. 280, pp. 2101-2104 (26 June
		1998).
* .	H3	Zhenyi, M., J.I. Scheinbeim, J.W. Lee, and B.A. Newman. 1994. "High Field
		Electrostrictive Response of Polymers," Journal of Polymer Sciences, Part B-
		Polymer Physics, Vol.32, pp. 2721-2731, 1994
	H4	
•		of an Electrostrictive Polymer Film Acoustic Actuator", Journal of Sound and
		Vibration (1998)215(2), 297-311.
	H5	Heydt, R., R. Pelrine, J. Joseph, J. Eckerle, and R. Kornbluh. "Acoustical
	1	Performance of an Electrostrictive Polymer Film Loudspeaker", Journal of the
		Acoustical Society of America Vol. 107, pp. 833-839 (Feb. 2000).
	H6	Pelrine, R., R. Kornbluh, and J. Joseph, "Electrostriction of Polymer
; ·		Dielectrics with Compliant Electrodes as a Means of Actuation." Sensors and
		Actuators A: Physical, Vol. 64, 1998, pp.77-85.
	H7	Pelrine, R., R. Kornbluh, and G. Kofod, "High Strain Actuator Materials
		Based on Dielectric Elastomers," submitted to Advanced Materials (May
• • • • • • • • • • • • • • • • • • • •		2000).
**************************************	H8	Pelrine, R., R. Kornbluh, Q. Pei, and J. Joseph, "High Speed Electrically
		Actuated Elastomers with Over 100% Strain," Science, Vol. 287, No. 5454,
		pages 1-21, 2000
- <u>i</u> - ,	H9	Brock, D. L., "Review of Artificial Muscle based on Contractile Polymers,"
••		MIT Artificial Intelligence Laboratory, A.I. Memo No. 1330, Nov. 1991.
·	H10	Kornbluh, R. D and R. E. Pelrine, "Dexterous Multiarticulated Manipulator
		with Electrostrictive Polymer Artificial Muscle." ITAD-7247-OR-96-175.
	* 2 %, 4 °	SRI Project Number 7247, Prepared for: Office of Naval Research, November
		1996
	HII	R. Pelrine and Kornbluh, R., and 1995. "Dexterous Multiarticulated
The word	, ,	Manipulator with Electrostrictive Polymer Artificial Muscle Actuator," EMU
	1 .	95-023, SRI International, Menlo Park, California, April 28, 1995
1417	H12	M. Greene and J. A. Willett, and Kornbluh, R., "Robotic systems," in ONR
		Report 32198-2, Ocean Engineering and Marine Systems 1997 Program (Dec.
•		1997)
	Hi3	Nguyen, T., J. A. Willett and Kornbluh, R., "Robotic systems," in ONR
	·	Ocean, Atmosphere, and Space Fiscal Year 1998 Annual Reports (Dec. 1998)
Examiner	نسيسا	Date Considered
	-	Date Conducted
	•	+

Information Diviosure Statement By Applicants OFF

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2 Applicant: Pelrine et al.

Application No.: 09/620,025

Group 2743

Filing Date
y) July 20, 2000
Other Documents

	Other Documents
NT.	A d mui
No.	Author, Title, Date, Place (e.g. Journal) of Publication
11	Nguyen, I., Green, M., and Kornhlub, R. "Robotic Systems." - ONW
	1 YVVIIII GUIUSUUCIE, NIIII ADNICE EIGCSI VASE LUUU Ammuni Damana (D. 1995)
12	I Clinic, R., and J. Joseph, FY 1997 King! Report on Artificial Manual
	Dimait Noods, 11AD-3393-FK-93-003, SKI International Menio Doub
	Camoina, March 1993
13	Pelrine, R., and J. Joseph. 1994. FY 1993 Final Report on Artificial Muscle for
	Small Robots, ITAD-4570-FR-94-076, SRI International, Menlo Park,
	Camonia.
14	Pelrine, R., R. Kombluh, and J. Joseph, FY 1994 Final Report on Artificial
	Muscle for Small Robots, ITAD-5782-FR-95-050, SRI International, Menlo
	Park, California, 1995
15	Pelrine, R., R. Kombluh, and J. Joseph, FY 1995 Final Report on Artificial
- **	Muscle for Small Robots, ITAD-7071 -FR-96-047, SRI International, Menlo
	i aik, California. 1996
16	Pelrine, R., R. Kornbluh, and J. Joseph, FY 1996 Final Report on Artificial
	Muscle for Small Robots, ITAD-7228-FR-97-058, SRI International, Menio
	Park, California, 1997
17	Pelrine, R., R. Kombluh, and J. Joseph, FY 1997 Final Report on Artificial
-,	Muscle for Small Robots, ITAD-1612-FR-98-041, SRI International, Menlo
	Park, California, 1998
78	Pelrine, R., R. Kornbluh, and J. Joseph, FY 1998 Final Report on Artificial
	Muscle for Small Robots, ITAD-3482-FR-99-36, SRI International, Menlo
	Park, California, 1999
19	Pelrine, R., R. Kornbluh, and J. Joseph, FY 1999 Final Report on Artificial
	Muscle for Small Robots, ITAD-10162-FR-00-27, SRI International, Menlo
	Park, California, 2000
110	T. B. Nguyen, C. K. DeBolt, Shastri, S. V., and A. Mann, "Advanced Robotic
	Search," in ONR Ocean, Atmosphere, and Space Fiscal Year 1999 Annual
	Reports (Dec. 1999)
\mathbf{m}	Dowling, K., Beyond Faraday-Non Traditional Actuation, available on the
	World Wide Web at http://www.frc.ri.cmu.edu/~nivek/OTH/beyond-
	faraday/beyondfaraday.html, 9 pages, 1994
112	Treloar J. R. G. "Mechanica of Pubbon Plantage II Co.
	Treloar, L.R.G, "Mechanics of Rubber Elasticity," J Polymer Science, Polymer Symposium, No. 48, pp. 107-123, 1974
112	Vam P "Plastics (for Wiscoll Co. 1974
-13	Yam, P., "Plastics Get Wired", Scientific American, Vol. 273, pp. 82-87, July 1995
لب	1995
,	Date Considered
	11 12 13 14 15 16 17 18 110 111 112

Inf rmation Disclosure Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No. SRI1P020/US-4184-2 Applicant: Pelrine et al. Filing Date July 20, 2000

Application No.: 09/620,025

Group 2743

Other Documents

Examiner	, 	
	1	A. A. Till D D.
Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	Л	
	l	Response of Elastomeric Polymer Dielectrics", Proc. Materials Res. Soc.
<u></u> .	1	rail meeting, Boston, MA, pages 1-12. December 1909
	J2	Kornbluh, R., Pelrine, R., Eckerie, J., Joseph, J., Electrostrictive Polymer
		Artificial Muscle Actuators", IEEE International Conference on Robotics and
		Automation, Leuven, Belgium, 1998
	J3	Ajluni, Cheryl, "Pressure Sensors Strive to Stay on Top, New Silicon
	1	Micromachining Techniques and Designs Promise Higher Performance",
		Electronic Design - Advanced Technology Series, October 3, 1994, pp. 67-74
	J4	Anderson, R. A., "Mechanical Stress in a Dielectric Solid From a Uniform
		Electric Field", The American Physical Society, 1986, pp. 1302-1307
	J5	Ashley, S., "Smart Skis and Other Adaptive Structures", Mechanical
		Engineering, November 1995, pp. 77-81
	J6	Goldberg, Lee, "Adaptive-Filtering Developments Extend Noise-Cancellation
		Applications, Electronic Design, February 6, 1995, pages 34 and 36
	J7	Jacobsen, S., Price, R., Wood, J., Rytting, T., and Rafaelof, M., "A Design
		Overview of an Eccentric-Motion Electrostatic Microactuator (the Wobble
	•	[Motor]", Sensors and Actuators, 20 (1989) pages 1-16
	J8	Pelrine, R. and Kornbluh, "Electroactive Polymer Devices", U.S. Patent
	-:	Application No. 09/619,846, filed July 20, 2000, 67 pages
	J9	Perline et al., "Electroactive Polymer Generators", U.S. Patent Application
		No. 09/619,848, filed July 20, 2000, 69 pages
	J10	Perline et al., "Electroactive Polymer Electrodes", U.S. Patent Application
		No. 09/619,843, filed July 20, 2000, 54 pages
	JII	Perline et al., "Electroactive Polymer Fabrication", U.S. Patent Application
		No. 09/619,845, filed July 20, 2000, 55 pages
. 1	J12	Pei et al., "Electroactive Polymers", U.S. Patent Application No. 09/619 847
		filed July 20, 2000, 70 pages
Examiner		Date Considered